

Amendments to the Claims:

1. (Currently amended) A visual indicator cold trap apparatus comprising:

a) a cold ~~processing chamber~~ trap comprising:

[[-]] an input port;

[[-]] an output port;

[[-]] a waste collection surface;

b) a ~~cooler~~ cooling means to cool the ~~processing chamber~~ trap to a trapping temperature;

c) a plurality of hollow transparent connectors operatively connected to the ports of the cold ~~processing chamber~~ trap;

whereby the cold ~~processing chamber~~ trap accepts chemical vapor exhaust at the input port, ~~to further a chemical reaction, and provides~~ collects non-gaseous wastes from the chemical vapor exhaust at the waste collection surface, and exhausts gaseous exhaust at the output port, and the hollow transparent connectors allow[[s]] the visual inspection of the adequacy of the cold ~~processing chamber~~ trap.

2. (Currently amended) A visual indicator cold trap apparatus as in claim 1 further comprising at least one heater means for heating [[the]] an input section of the hollow transparent connectors to prevent material trapping outside of the hollow transparent connectors.

3. (Currently amended) ~~An improved cold trapping system~~ A visual indicator cold trap apparatus as in claim 1 ~~in which~~ further comprising the trapping temperature is in the range from 25 to [[-]] negative 200 degrees Celsius.

4. (Currently amended) A visual indicator cold trap apparatus as in claim 1 ~~in which~~ further comprising one of the [[a]] hollow transparent connectors is operatively connected to the input port of the cold ~~processing chamber~~ trap, whereby a visual indication of material collected at the transparent connector can show[[s]] that non-gaseous waste collects upstream of the cold trap apparatus ~~there is a problem at the upstream flow of the cold trap~~.

5. (Currently amended) A visual indicator cold trap apparatus as in claim 1 ~~in which~~ further comprising ~~[[a]] one of the~~ hollow transparent connectors ~~[[is]] being~~ operatively connected to the output port of the cold ~~processing-chamber trap~~, whereby a visual indication of material collected at the hollow transparent connector shows that the cold trap is inefficient ~~there is a problem at the downstream flow of the cold trap.~~

6. (Currently amended) A visual indicator cold trap apparatus as in claim 1 in which the input port of the cold ~~processing-chamber trap~~ is transparent and the hollow transparent connector operatively connected to the input port is the transparent input port itself.

7. (Currently amended) A visual indicator cold trap apparatus as in claim 1 in which the output port of the cold ~~processing-chamber trap~~ is transparent and the hollow transparent connector operatively connected to the output port is the transparent output port itself.

8. (Currently amended) A visual indicator cold trap apparatus as in claim 1 in which the cold ~~trap processing-chamber~~ further comprises a drain port to collect the waste material.

9. (Currently amended) A visual indicator cold trap apparatus as in claim 8 in which ~~[[a]] at least one of the~~ hollow transparent connectors is operatively connected to the drain port of the cold ~~processing-chamber trap~~, whereby a visual indication of material collected at the transparent connector can ~~shows that there is~~ material collected at the cold trap.

10. (Currently amended) A visual indicator cold trap apparatus as in claim 8 in which the drain ~~section port~~ of the cold ~~processing-chamber trap~~ is further comprised of a hollow transparent connector, whereby a visual indication of ~~material collected at the hollow~~ transparent section connector of the drain port can show~~[[s]]~~ that there is material collected at the cold trap.

11. (Currently amended) A high pressure chemical vapor trapping system to separate and collect elements of a chemical vapor exhaust ~~having a visual indicator cold trap~~, the system comprising:

- a) a first processing chamber having a first chamber input port, a first chamber gas output port, a first chamber waste collection surface, and a chamber heater to heat the first processing chamber to a first temperature, the first processing chamber accepting chemical vapor exhaust at the first chamber input port at a trapping pressure to further a chemical reaction, and providing non-gaseous wastes at the first chamber waste collection surface, and providing gaseous exhaust at the first chamber gas output port; and
- b) a second processing chamber having a second chamber input port operatively connected to the first chamber gas output port, a second chamber gas output port, a second chamber waste collection surface, a second chamber cooler to cool the second processing chamber to a second temperature, less than the first temperature, and a plurality of hollow transparent connectors operatively connected to the ports of the second processing chamber,
- whereby the second processing chamber ~~accepting~~ accepts chemical vapor exhaust at the second chamber input port, ~~to further a chemical reaction, and providing~~ collects non-gaseous wastes at the second chamber waste collection surface, and exhausts gaseous exhaust at the second chamber gas output port, whereby vapor byproducts are collected in ~~two stages~~ the first and the second processing chambers, and the hollow transparent connectors allow[[s]] the visual inspection of the adequacy of the ~~old~~ second processing chamber.

12. (Currently amended) A high pressure chemical vapor trapping system as in claim 11 in which the first processing chamber first temperature ~~is in the range~~ ranges from 100 to 500 degrees Celsius and in which the second processing chamber second temperature ~~is in the range~~ ranges from 25 degrees to ~~minus~~ negative 200 degrees Celsius.

13. (Currently amended) A high pressure chemical vapor trapping system as in claim 11 wherein the chemical vapor exhaust at the first chamber input port is a MOCVD precursor, in which said first ~~processing~~ chamber waste collection surface is biased with a voltage, whereby charged metal from the MOCVD precursor is attracted to and deposited on the first chamber waste

collection surface.

14. (Currently amended) A high pressure chemical vapor trapping system as in claim 13 wherein the bias voltage is in the range from -10 to -100 volts DC, whereby positively charged metal from the MOCVD precursor is attracted and deposited on the first chamber waste collection surface.

15. (Currently amended) A high pressure chemical vapor trapping system as in claim 13 wherein the bias voltage is in the range from 10 to 100 volts DC, whereby negatively charged metal from the MOCVD precursor is attracted and deposited on the first chamber waste collection surface.

16. (Currently amended) A ~~[[low]]~~ high pressure chemical vapor trapping system ~~as in claim 11~~
~~in which the first processing chamber comprising:~~

a hot trap that receives an exhaust from a vacuum pump at a hot trap input and allows further reaction of a plurality of precursors remaining in the exhaust;

~~includes a second~~ hot trap input port to accept a catalyst to further~~[[s]]~~ the chemical reaction in the ~~first chamber~~ hot trap~~[[.]]~~, wherein the catalyst is selected from the group consisting of oxygen, water, alcohol, and ammonia;

a cold trap that receives at a cold trap input a plurality of gaseous by-products from an output of the hot trap, wherein the cold trap converts said gaseous by-products to non-gaseous by-products; and

at least one visual indicator functionally associated with the cold trap.

17. (Cancelled.)

18. (Currently amended) A ~~[[low]]~~ high pressure chemical vapor trapping system as in claim 11 in which ~~[[a]]~~ one of the plurality of hollow transparent connectors operatively connected to the ports of the second processing chamber is operatively connected to the input port of the second processing chamber, whereby ~~[[a]]~~ visualization ~~indication~~ of material collected at the transparent connector connected to the input port of the second processing chamber ~~shows~~

indicates that there is a problem at the upstream flow of the cold trap non-gaseous waste collects upstream of the second processing chamber.

19. (Currently amended) A [[low]] high pressure chemical vapor trapping system as in claim 11 in which [[a]] one of the plurality of hollow transparent connectors operatively connected to the ports of the second processing chamber is operatively connected to the output port of the second processing chamber, whereby [[a]] visualization indication of material collected at the transparent connector ~~shows~~ indicates that the second processing chamber is inefficient there is a problem at the downstream flow of the cold trap.

20. (Currently amended) A [[low]] high pressure chemical vapor trapping system as in claim 11 ~~in which~~ wherein the second processing chamber further comprises a drain port to collect [[the]] non-gaseous waste material.

21. (New) An apparatus for processing at least one semiconductor wafer which can be checked visually to monitor processing, the apparatus comprising:

a processing chamber;

a vacuum pump operatively connected with the processing chamber that pumps an exhaust away from the processing chamber;

a hot trap that receives the exhaust from the vacuum pump at a hot trap input and allows further reaction of a plurality of precursors remaining in the exhaust;

a cold trap that receives at a cold trap input a plurality of gaseous by-products from an output of the hot trap, wherein the cold trap converts said gaseous by-products to non-gaseous by-products and exhausts; and

at least one visual indicator functionally associated with the cold trap.

22. (New) The apparatus for processing at least one semiconductor wafer as in claim 21 wherein the at least one visual indicator functionally associated with the cold trap is a hollow transparent connector operatively connected with the cold trap input.

23. (New) The apparatus for processing at least one semiconductor wafer as in claim 21 wherein the at least one visual indicator functionally associated with the cold trap is a hollow transparent connector operatively connected with the cold trap output.

24. (New) The apparatus for processing at least one semiconductor wafer as in claim 21 wherein the visual indicator functionally associated with both the cold trap input and cold trap output is a hollow transparent connector.

25. (New) The apparatus for processing at least one semiconductor wafer as in claim 21 further comprising a waste drain connected with the cold trap with a hollow transparent connector to allow visual inspection of the collected material.

26. (New) The apparatus for processing at least one semiconductor wafer as in claim 21 further comprising the cold trap is in the temperature range from 25 degrees to -200 degrees Celsius.

27. (New) The apparatus for processing at least one semiconductor wafer as in claim 21 further comprising a plurality of heated collection surfaces extending into the hot trap, the heated collection surfaces acting as metal collection surfaces.

28. (New) The apparatus for processing at least one semiconductor wafer as in claim 21 wherein the hot trap contains a plurality of heated collection surfaces that are biased with a voltage.

29. (New) The apparatus for processing at least one semiconductor wafer as in claim 21 further comprising a second hot trap input port to accept a catalyst selected from the group consisting of water, alcohol, and ammonia.

30. (New) A visual indicator cold trap apparatus comprising:

- a) a cold processing chamber trap comprising:
 - an input port;
 - an output port;

- a waste collection surface;
- b) a cooling means to cool the trap to a trapping temperature;
- c) a transparent connector operatively connected to at least one of the input port and the outputport of the cold trap;

whereby the cold trap accepts chemical vapor exhaust at the input port, to further a chemical reaction, and collects non-gaseous wastes from the chemical vapor exhaust at the waste collection surface, and exhausts gaseous exhaust at the output port, and the transparent connector allows the visual inspection of the adequacy of the cold trap.

31. (New) A high pressure chemical vapor trapping system to separate and collect elements of a chemical vapor exhaust, the system comprising:

- a) a hot trap having a hot trap input port, a hot trap gas output port, a hot trap waste collection surface, and a hot trap heater to heat the hot trap to a first temperature, the hot trap accepting chemical vapor exhaust at the hot trap input port at a trapping pressure to further a chemical reaction, and providing non-gaseous wastes at hot trap waste collection surface, and providing gaseous exhaust at the hot trap gas output port; and
- b) a cold trap having a second chamber input port operatively connected to the hot trap gas output port, a cold trap gas output port, a cold trap waste collection surface, a cold trap cooler to cool the cold trap to a second temperature, less than the first temperature, and a plurality of hollow transparent connectors operatively connected to the ports of the cold trap,

whereby the cold trap accepts chemical vapor exhaust at the cold trap input port, collects non-gaseous wastes at the cold trap waste collection surface, and exhausts gaseous exhaust at the cold trap gas output port, whereby vapor by-products are collected in the hot trap and in the cold trap, and the hollow transparent connectors allow the visual inspection of the adequacy of the cold trap.

32. (New) An apparatus for processing at least one semiconductor wafer which can be checked

visually to monitor processing, the apparatus comprising:

- a processing chamber;

- a vacuum pump operatively connected with the processing chamber that pumps an exhaust away from the processing chamber;

- a hot trap that receives the exhaust from the vacuum pump at a hot trap input and allows further reaction of the exhaust;

- a cold trap that receives at a cold trap input the exhaust from an output of the hot trap, wherein the cold trap allows further reaction of the exhausts; and

- at least one visual indicator associated with the cold trap.

33. (New) An apparatus for processing at least one semiconductor wafer which can be checked visually to monitor processing, the apparatus comprising:

- a processing chamber;

- a cold trap that receives at a cold trap input an exhaust from an output of a hot trap, wherein the cold trap allows further reaction of the exhausts; and

- at least one visual indicator associated with the cold trap.

34. (New) An apparatus for processing at least one semiconductor wafer which can be checked visually to monitor processing, the apparatus comprising:

- a processing chamber;

- a hot trap that receives an exhaust from a vacuum pump at a hot trap input and allows further reaction of the exhaust;

- a cold trap that receives at a cold trap input the exhaust from an output of the hot trap, wherein the cold trap allows further reaction of the exhausts; and

- at least one visual indicator associated with the cold trap.